

A Ventromedian Cervical Sclerite of Mosquito Larvae  
(Diptera: Culicidae)<sup>1</sup>

John F. Reinert<sup>2</sup>

Department of Entomology

Walter Reed Army Institute of Research

Washington, D. C. 20012

During studies on the subgenera of *Aedes* Meigen, a small pigmented plate was discovered on the ventral median region of the fourth stage larval cervical membrane. This plate, the *ventromedian cervical sclerite* (VmCS), is variable in pigmentation and development (Fig. 1). In some species and subgenera of *Aedes* (e.g., *Edwardsaedes* Belkin, *Neomelaniconion* Newstead, *Aedes* Meigen and many *Aedimorphus* Theobald) the sclerite is fairly large and heavily pigmented. Species of the subgenus *Verrallina* Theobald have a small but heavily pigmented sclerite (see illustrations of Reinert 1974). This structure was also illustrated but not described for *Aedes* (*Stegomyia*) *aegypti* (Linnaeus) by Hochman and Reinert (1974). The ventromedian cervical sclerite has a fragmented appearance in a number of species of the subgenus *Ochlerotatus* Lynch Arribalzaga (e.g., *canadensis* (Theobald) and *exerucians* (Walker)) while other species of the subgenus have a well developed complete sclerite (e.g., *atro-palpus* (Coquillett) and *sollicitans* (Walker)) and still others apparently lack the plate altogether (e.g., *atlanticus* Dyar and Knab and *dupreei* (Coquillett)).

Seventy-four species in 19 subgenera of *Aedes* examined possessed a ventromedian cervical sclerite. These species and subgenera are listed below. Generic and subgeneric abbreviations follow Reinert (1975).

*Ae.* (*Abr.*) *papago*

*Ae.* (*Aed.*) *cinereus*  
*esoensis*

*Ae.* (*Adm.*) *alboscute'llatus*  
*caecus*  
*domesticus*  
*fowleri*  
*haworthi*

*Ae.* (*Adm.*) *mediolineatus*

*natronius*  
*oakleyi*  
*orbitae*  
*pallidostriatus*  
*pampangensis*  
*pipersalatus*  
*quasiunivittatus*  
*senyavinensis*  
*stokesi*

1

This work was supported in part by Research Contract DAMD-17-74-C-4086 from the U. S. Army Medical Research and Development Command, Office of the Surgeon General, Washington, D. C.

2

Current address: Chief, Entomology Research Branch, Headquarters, U. S. Army Medical Research and Development Command, Washington, D. C. 20314.

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE <b>1976</b>		2. REPORT TYPE		3. DATES COVERED <b>00-00-1976 to 00-00-1976</b>	
4. TITLE AND SUBTITLE <b>A Ventromedian Cervical Sclerite of Mosquito Larvae (Diptera: Culicidae)</b>				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>Walter Reed Army Institute of Research, Department of Entomology, Washington, DC, 20012</b>				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release; distribution unlimited</b>					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>Same as Report (SAR)</b>	18. NUMBER OF PAGES <b>4</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

<i>Ae. (Adm.) syntheticus</i> <i>vexans</i>	<i>Ae. (Och.) canadensis</i> <i>communis</i> <i>diantaeus</i> <i>excrucians</i> <i>fulvus pallens</i> <i>intrudens</i> <i>mittchellae</i> <i>rusticus</i> <i>sollicitans</i> <i>squamiger</i> <i>taeniorhynchus</i> <i>vigilax</i> <i>vittiger</i>
<i>Ae. (Ala.) brevitibia</i>	
<i>Ae. (Azt.) ramirezi</i>	
<i>Ae. (Dic.) adersi</i> <i>franciscoi</i> <i>whartoni</i>	
<i>Ae. (Edw.) imprimens</i>	
<i>Ae. (Fin.) banksi</i> <i>formosensis</i> <i>ganapathi</i> <i>harveyi</i> <i>hurlbuti</i> <i>inermis</i> <i>prominens</i> <i>sherki</i> <i>togoi</i>	<i>Ae. (Par.) ostentatio</i> <i>Ae. (Pro.) triseriatus</i> <i>Ae. (Sku.) pembaensis</i> <i>Ae. (Stg.) aegypti</i> <i>quasiscutellaris</i> <i>vittatus</i>
<i>Ae. (Gym.) mediovittatus</i>	
<i>Ae. (How.) sexlineatus</i>	<i>Ae. (Ver.) adustus</i> <i>butleri</i> <i>carmenti</i> <i>cyrtolabis</i> <i>gibbosus</i> <i>indicus</i> <i>leicesteri</i> <i>nobukonis</i> <i>torosus</i> <i>uncus</i> <i>vallistris</i> <i>yusafi</i>
<i>Ae. (Lor.) fumidus</i>	
<i>Ae. (Muc.) laniger</i> <i>scatophagoides</i>	
<i>Ae. (Neo.) lineatopennis</i>	
<i>Ae. (Och.) abserratus</i> <i>atropalpus</i>	

Twelve species in 4 genera other than *Aedes* were also examined and were found to possess a ventromedian cervical sclerite.

<i>Cx. (Cux.) restuans</i>	<i>Hs. (Hez.) aureochaeta</i> <i>persimilis</i> <i>proxima</i> <i>reidi</i> <i>scintillans</i>
<i>Cx. (Ncx.) territans</i>	
<i>Hg. (Hag.) janthinomys</i> <i>lucifer</i> <i>mesodentatus</i> <i>regalis</i>	<i>Op. fuscus</i>

A ventromedian cervical sclerite was not found in the following species.

<i>Ae. (Ayu.) griffithi</i>	<i>Er. chrysogaster</i>
<i>peytoni</i>	
<i>Ae. (Can.) masculinus</i>	<i>Or. alba</i>
	<i>fascipes</i>
	<i>signifera</i>
<i>Ae. (Och.) atlanticus</i>	
<i>dupreei</i>	<i>Ps. (Jan.) ferox</i>
<i>An. (Ano.) crucians</i>	<i>Ps. (Pso.) ciliata</i>
<i>punctipennis</i>	<i>howardii</i>
<i>quadrимaculatus</i>	
<i>Cs. (Cus.) inornata</i>	<i>Tx. (Lyn.) rutilus</i>
	<i>Ud. argyrurus</i>
<i>Cx. (Cux.) nigripalpus</i>	
<i>peus</i>	<i>Ur. (Ura.) sapphirina</i>
<i>De. mathesoni</i>	<i>Wy. (Wyo.) mitchellii</i>
<i>pseudes</i>	<i>smithii</i>

This study was limited in scope; however, as additional species and genera are fully described and illustrated this sclerite may provide additional support for separating taxa.

#### ACKNOWLEDGMENTS

Appreciation is expressed to: Bruce F. Eldridge and Ronald A. Ward, Walter Reed Army Institute of Research for reviewing the manuscript; to Young T. Sohn, Medical Entomology Project, for preparing the illustrations; and Owilda J. R. Curtis, for typing the final manuscript.

#### REFERENCES CITED

- Hochman, R. H. and J. F. Reinert. 1974. Undescribed setae in larvae of Culicidae (Diptera). Mosq. Syst. 6: 1-10.
- Reinert, J. F. 1974. Medical entomology studies - I. A new interpretation of the subgenus *Verrallina* of the genus *Aedes* (Diptera: Culicidae). Contrib. Am. Entomol. Inst. (Ann Arbor) 11 (1): 1-249.
- Reinert, J. F. 1975. Mosquito generic and subgeneric abbreviations (Diptera: Culicidae). Mosq. Syst. 7: 105-10.

Fig. 1

